AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) An optical waveguide device, comprising:

at least one laser diode;

a buffer layer formed on a substrate; and

at least one amorphous film-based slab waveguide comprising a rare-earth doped material comprising Al_2O_3, Y_2O_3, or TiO_2, having a refractive index contrast of at least 0.2% and optical transparency of below 0.3dB/cm loss formed on the buffer layer, coupled to receive light from the at least one laser diode, and including an integrated photodiode formed on the substrate.

2. (Canceled)

3. (Previously presented) The optical waveguide device of claim 1, wherein the slab waveguide has an optical transparency exhibiting a light loss of below 0.3 dB/cm.

4. (Previously presented) The optical waveguide device of claim 1, wherein the slab waveguide has a smooth surface.

5. (Previously presented) The optical waveguide device of claim 1, wherein the slab waveguide includes a lens duct.

6. (Original) The optical waveguide device of claim 1, wherein the at least one laser diode comprises a diode array.

7. (Previously presented) The optical waveguide device of claim 1, wherein the slab waveguide includes an active waveguide and a passive cladding, wherein the refractive index of the active waveguide is greater than the refractive index of the passive cladding.

8. (Previously presented) The optical waveguide device of claim 7, wherein the slab waveguide is folded in the plane of the slab.

9. (Previously presented) The optical waveguide device of claim 7, wherein the passive cladding has a vertical thickness sufficient to capture a substantial amount of light emitted from the at least one laser diode.

10. (Previously presented) The optical waveguide device of claim 1, wherein the slab waveguide includes a mode-size converter.

11. (Previously presented) The optical waveguide device of claim 1, wherein the at least one laser diode is a vertical cavity surface emitting laser and the slab waveguide is deposited over the vertical cavity surface emitting laser.

12. (Previously presented) The optical waveguide device of claim 1, wherein the slab waveguide includes an array of waveguides.

13. (Previously presented) The optical waveguide device of claim 11, wherein a mode size of an optical beam transmitted by the slab waveguide is less than a mode size of an incident optical beam.

14. (Previously presented) The optical waveguide device of claim 12, wherein the slab waveguide includes at least one vertical reverse taper.

15-20. (Canceled)

21. (Currently amended) An optical waveguide device, comprising:

at least one laser diode formed on a substrate; and

at least one amorphous film-based, biased pulsed DC plasma vapor-deposited slab waveguide comprising a rare-earth doped material comprising Al_2O_3, Y_2O_3, or TiO_2 and having a refractive index contrast of at least 0.2% and optical transparency of below 0.3 dB/cm loss formed on the substrate, coupled to receive light from the at least one laser diode.

22. (Previously presented) The optical waveguide device of claim 21, wherein the slab waveguide comprises a core surrounded by a cladding.

23. (Previously presented) The optical waveguide device of claim 22, wherein the refractive index of the core is greater than the refractive index of the cladding.

24. (Previously presented) The optical waveguide device of claim 22, wherein the core is formed from rare-earth doped Al_2O_3, Y_2O_3, or TiO_2, and the cladding is formed from Al_2O_3, or Y_2O_3.

25. (Previously presented) The optical waveguide of claim 22, wherein the core comprises a single-mode core, and the cladding comprises a multi-mode cladding.